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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,749	08/30/2001	Charles A. Howland	W0490/7031	8468

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EXAMINER

PIERCE, JEREMY R

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/943,749	Applicant(s) HOWLAND, CHARLES A.	
	Examiner Jeremy R. Pierce	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,8,17-22,28,29,35-38 and 74-78 is/are pending in the application.
- 4a) Of the above claim(s) 74-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,8,17-22,28,29 and 35-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 22, 2003 has been entered.

### ***Response to Amendment***

2. The amendment filed on April 22, 2003 amends claims 1 and 38. The amendment is sufficient to overcome the 112, 102, and 103 rejections set forth in the last Office Action.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 8, 17-22, 28, 29, and 35-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable

Art Unit: 1771

one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 1 recites the fiber bundle is "constructed such that upon exposure to a fabric dye, the fiber bundle is dyed to an essentially visually uniform color density." However, the specification does not provide the "construction" of the fiber bundle to achieve this claimed feature. How is the fiber bundle constructed to obtain a uniform color density when dyed?

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 8, 17-19, and 35-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Montgomery et al. (U.S. Patent No. 5,033,262).

Montgomery et al. disclose a corespun yarn that comprises a high temperature core of aramid fibers and PBI fibers and a sheath of cotton or polyester (column 2, lines 1-19). The core and the core wrapper both extend primarily in the axial direction to impart tensile strength (column 2, lines 12-15). The fabric may be dyed in a similar manner as fabrics made of 100% cotton (column 3, lines 5-9). With regard to claim 18, fabric dye is not positively recited in claim 1.

***Claim Rejections - 35 USC § 102/103***

Art Unit: 1771

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 17-19, and 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Land (U.S. Patent No. 6,146,759) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Land in view of Kolmes et al. (U.S. Patent No. 6,381,940).

Land discloses a fire resistant corespun yarn (column 3, lines 10-17). The core may be made of a continuous filament fiberglass material (column 3, lines 27-31). The fibers of the sheath are aligned normal to the cross-section of the fiber (Figure 1), and

may be dyed uniformly (column 6, lines 35-57). Land does not disclose a tensile breaking strength for the fiberglass filaments. However, Land teaches the filaments may be made from PPG (column 3, line 29) and uses an example where the glass filament is 198 denier (column 7, lines 1-2). Kolmes et al. teach that 200 denier fiberglass made by PPG is characterized by a high tenacity of 12 to about 20 grams per denier (column 7, lines 20-25). The Examiner thus asserts that the fiberglass filaments of Land would inherently have a tensile breaking strength of at least 10 grams per denier. If not inherent to the invention of Land, it would be obvious to a person having ordinary skill in the art to use fiberglass filaments with a breaking strength of at least 10 grams per denier in order to increase the strength of the fiber bundle, since fiberglass filaments with those strength characteristics are well known in the art, as taught by Kolmes et al. With regard to claim 17, acrylic, polyester, polyolefin, and cellulose materials may make up the sheath of the fiber bundle (column 4, lines 1-5). With regard to claim 18, fabric dye is not positively recited in claim 1. With regard to claim 35, the fiber bundle may be woven (column 5, line 26).

***Claim Rejections - 35 USC § 103***

10. Claims 22, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery et al.

With regard to claim 22, Montgomery et al. do not teach the primary twist multiplier of the fiber bundle. However, adjusting the amount of twist in the fiber bundle would be a result effective variable that would affect the stability of the bundle. It would

Art Unit: 1771

have been obvious to one having ordinary skill in the art to provide a primary twist multiplier of at least 2.7 to the spun yarn of Montgomery et al. in order to create a fiber bundle with sufficient stability for use in woven fabrics, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). With regard to claim 28, Montgomery et al. do not disclose the number of fibers present in the fiber bundle. However, the total number of fibers present in the fiber bundle is also a result effective variable that would affect the size of the fiber. It would have been obvious to one having ordinary skill in the art to use between 60 and 100 fibers in the fiber bundle in order to provide a bundle with sufficient size for weaving into garments, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. With regard to claim 29, Montgomery et al. do not disclose dyeing the sheath fibers a color that is lighter than the fiberglass filaments. It would have been obvious to one having ordinary skill in the art to dye the sheath yarns a color that is lighter than the fiberglass, since selection of a color for a fabric is an obvious modification to a person in the textile art.

11. Claims 22, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Land or, in the alternative, over Land in view of Kolmes et al.

With regard to claim 22, Land does not teach the primary twist multiplier of the fiber bundle. However, adjusting the amount of twist in the fiber bundle would be a result effective variable that would affect the stability of the bundle. It would have been obvious to one having ordinary skill in the art to provide a primary twist multiplier of at

least 2.7 to the spun yarn of Land in order to create a fiber bundle with sufficient stability for use in woven fabrics, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. With regard to claim 28, Land also does not disclose the number of fibers present in the fiber bundle. However, the total number of fibers present in the fiber bundle is also a result effective variable that would affect the size of the fiber. It would have been obvious to one having ordinary skill in the art to use between 60 and 100 fibers in the fiber bundle in order to provide a bundle with sufficient size for weaving into garments, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. With regard to claim 29, Land does not disclose dyeing the sheath fibers a color that is lighter than the fiberglass filaments. It would have been obvious to one having ordinary skill in the art to dye the sheath yarns a color that is lighter than the fiberglass, since selection of a color for a fabric is an obvious modification to a person in the textile art.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Land in view of Lilani (U.S. Patent No. 6,562,741) or, in the alternative, over Land in view of Kolmes et al. in view of Lilani.

Land does not disclose the core material to be para-armid, liquid crystal polyester, ultra-high molecular weight polyethylene, or PBO. Lilani discloses fire resistant fabrics are commonly made from para-armid or PBO. It would have been obvious to one having ordinary skill in the art to use para-armid or PBO in the fiber bundle of Land, since it has been held to be within the general skill of a worker in the art



Art Unit: 1771

to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416.

13. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery et al. in view of Prickett (U.S. Patent No. 5,853,885)

Montgomery et al. do not disclose using a Cotton System or a Worsted System to make the corespun yarns. Prickett discloses using both the Cotton System (column 2, line 65) and the Worsted System (column 4, line 37) for spinning fibers in the manufacture of protective clothing. It would have been obvious to one having ordinary skill in the art to spin the fiber bundles of Montgomery et al. using the Cotton System or the Worsted System as a matter of obvious choice in production method, since both Systems are held to be known and common in the art.

14. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Land in view of Prickett or, in the alternative, over Land in view of Kolmes et al. in view of Prickett.

Land does not disclose using a Cotton System or a Worsted System to make the corespun yarns. Prickett discloses using both the Cotton System (column 2, line 65) and the Worsted System (column 4, line 37) for spinning fibers in the manufacture of protective clothing. It would have been obvious to one having ordinary skill in the art to spin the fiber bundles of Land using the Cotton System or the Worsted System as a matter of obvious choice in production method, since both Systems are held to be known and common in the art.

Art Unit: 1771

**Response to Arguments**

15. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (703) 605-4243. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jeremy R. Pierce  
Examiner  
Art Unit 1771



ELIZABETH M. COLE  
PRIMARY EXAMINER

September 2, 2003